or visitor log books that indicate that training has been provided.

§ 46.10 Compensation for training.

(a) Training must be conducted during normal working hours. Persons required to receive training must be paid at a rate of pay that corresponds to the rate of pay they would have received had they been performing their normal work tasks.

(b) If training is given at a location other than the normal place of work, persons required to receive such training must be compensated for the additional costs, including mileage, meals, and lodging, they may incur in attending such training sessions.

§ 46.11 Site-specific hazard awareness training.

(a) You must provide site-specific hazard awareness training before any person specified under this section is exposed to mine hazards.

(b) You must provide site-specific hazard awareness training, as appropriate, to any person who is not a miner as defined by §46.2 of this part but is present at a mine site, including:

(1) Office or staff personnel;

(2) Scientific workers;

(3) Delivery workers;

(4) Customers, including commercial over-the-road truck drivers;

(5) Construction workers or employees of independent contractors who are not miners under §46.2 of this part;

(6) Maintenance or service workers who do not work at the mine site for frequent or extended periods; and

(7) Vendors or visitors.

(c) You must provide miners, such as drillers or blasters, who move from one mine to another mine while remaining employed by the same production-operator or independent contractor with site-specific hazard awareness training for each mine.

(d) Site-specific hazard awareness training is information or instructions on the hazards a person could be exposed to while at the mine, as well as applicable emergency procedures. The training must address site-specific health and safety risks, such as unique geologic or environmental conditions, recognition and avoidance of hazards such as electrical and powered-haulage hazards, traffic patterns and control, and restricted areas; and warning and evacuation signals, evacuation and emergency procedures, or other special safety procedures.

(e) You may provide site-specific hazard awareness training through the use of written hazard warnings, oral instruction, signs and posted warnings, walkaround training, or other appropriate means that alert persons to site-specific hazards at the mine.

(f) Site-specific hazard awareness training is not required for any person who is accompanied at all times by an experienced miner who is familiar with hazards specific to the mine site.

§ 46.12 Responsibility for independent contractor training.

(a)(1) Each production-operator has primary responsibility for ensuring that site-specific hazard awareness training is given to employees of independent contractors who are required to receive such training under §46.11 of this part.

(2) Each production-operator must provide information to each independent contractor who employs a person at the mine on site-specific mine hazards and the obligation of the contractor to comply with our regulations, including the requirements of this part.

(b)(1) Each independent contractor who employs a miner, as defined in §46.2, at the mine has primary responsibility for complying with §§46.3 through 46.10 of this part, including providing new miner training, newly hired experienced miner training, new task training, and annual refresher training.

(2) The independent contractor must inform the production-operator of any hazards of which the contractor is aware that may be created by the performance of the contractor's work at the mine.

PART 47—HAZARD COMMUNICATION (HAZCOM)

Subpart A—Purpose and Scope of HazCom

Sec.

AUTHORITY: 30 U.S.C. 811, 825.

SOURCE: 65 FR 59096, Oct. 3, 2000, unless otherwise noted.

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Subpart A—Purpose and Scope of HazCom

§ 47.1 Purpose of a HazCom standard.

The purpose of this part is to reduce injuries and illnesses by ensuring that each operator—

(a) Identifies the chemicals at the mine,

(b) Determines which chemicals are hazardous,

(c) Establishes a HazCom program, and

(d) Informs each miner who can be exposed, and other on-site operators whose miners can be exposed, about those hazards and appropriate protective measures.

§ 47.2 Operators and chemicals covered.

This part applies to any operator producing or using a hazardous chemical to which a miner can be exposed under normal conditions of use or in a foreseeable emergency. (Subpart I lists exemptions from coverage.)

Subpart B—Hazard Determination

§ 47.11 Identifying hazardous chemicals.

A hazardous chemical is any chemical that is a physical or health hazard. The operator must evaluate each chemical brought onto mine property and each chemical produced on mine property to determine if it is hazardous as specified in Table 47.11 as follows:

TABLE 47.11.—IDENTIFYING HAZARDOUS CHEMICALS

Category	Basis for determining if a chemical is hazardous
(a) Chemical brought to the mine	(1) The chemical is hazardous when its MSDS or container label indicates it is a physical or health hazard; or the operator may choose to evaluate the chemical using the criteria in paragraph (b) or (c) of this table.

TABLE 47.11.—IDENTIFYING HAZARDOUS CHEMICALS—Continued

Category	Basis for determining if a chemical is hazardous
	(2) If the chemical is a hazardous waste and an MSDS is unavailable, the chemical is hazardous if any of the sources in paragraph (b) of this table indicates it is a physical or health hazard.
(b) Chemical produced at the mine	The chemical is hazardous if any one of the following indicates that it is a hazard: (1) Available evidence concerning its physical hazards. (2) MSHA standards in 30 CFR chapter 1. (3) American Conference of Governmental Industrial Hygienists (ACGIH), ''Threshold Limit Values and Biological Exposure Indices'' (latest edition). (4) National Toxicology Program (NTP), ''Annual Report on Carcinogens'' (latest edition). (5) International Agency for Research on Cancer (IARC), Supplement 7 ''Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42,'' or any subsequent IARC ''Monographs'' or ''Supplements''.
(c) Mixture produced at the time	(1) If a mixture has been tested as a whole to determine its hazards, use the results of that testing. (2) If a mixture has not been tested as a whole to determine its hazards— (i) Use whatever scientifically valid evidence is available to determine its physical hazards; (ii) Assume that it presents the same health hazard as a component that makes up 1% or more (by weight or volume) of the mixture; and (iii) Assume that it presents a carcinogenic hazard if a component considered carcinogenic by ACGIH, NTP, or IARC makes up 0.1% or more (by weight or volume) of the mixture. (3) If evidence indicates that a component could be released from a mixture in a concentration that could present a health risk to miners, assume that the mixture presents the same hazard.

Subpart C—HazCom Program

§47.21 Requirement for a HazCom program.

Each operator must—

(a) Develop and implement a written HazCom program;

(b) Maintain it for as long as a hazardous chemical is known to be at the mine; and

(c) Share relevant HazCom information with other operators whose miners can be affected.

§47.22 HazCom program contents.

The HazCom program must include the following:

(a) How this part is put into practice at the mine through the use of—

(1) Hazard determination,

(2) Labels and other forms of warning,

(3) Material safety data sheets (MSDSs), and

(4) Miner training.

(b) A list or other record of the identity of all hazardous chemicals known to be at the mine. The list must—

(1) Use a chemical identity that permits cross-referencing between the list, a chemical's label, and its MSDS; and

(2) Be compiled for the whole mine or by individual work areas.

(c) At mines with more than one operator, the methods for—

(1) Providing other operators with access to MSDSs, and

(2) Informing other operators about—

(i) Hazardous chemicals to which their employees can be exposed,

(ii) The labeling system on the containers of these chemicals, and

(iii) Appropriate protective measures.

Subpart D—Container Labels and Other Forms of Warning

§ 47.31 Requirement for container labels.

(a) The operator must ensure that each container of a hazardous chemical has a label. If a container is tagged or marked with the appropriate information, it is labeled.

(1) The operator must replace a container label immediately if it is missing or if the hazard information on the label is unreadable.

(2) The operator must not remove or deface existing labels on containers of hazardous chemicals.

(b) For each hazardous chemical produced at the mine, the operator must prepare a container label and update this label with any significant new information about the chemical's hazards within 3 months of becoming aware of this information.

(c) For each hazardous chemical brought to the mine, the operator must replace an outdated label when a revised label is received from the chemical's manufacturer or supplier.

(d) The operator is not responsible for an inaccurate label obtained from the chemical's manufacturer or supplier.

§ 47.32 Label contents.

If an operator must make a label, the label must—

(a) Be prominently displayed, legible, accurate, and in English;

(b) Display appropriate hazard warnings; and

(c) Use a chemical identity that permits cross-referencing between the list of hazardous chemicals, a chemical's label, and its MSDS.

§ 47.33 Label alternatives.

The operator may use signs, placards, process sheets, batch tickets, operating procedures, or other label alternatives for individual, stationary process containers, provided that the alternative—

(a) Identifies the container to which it applies,

(b) Communicates the same information as required on the label, and

(c) Is readily accessible throughout each work shift to miners in the work area.

§ 47.34 Temporary, portable containers.

The operator does not have to label a temporary, portable container into which a hazardous chemical is transferred from a labeled container provided that—

(a) The operator ensures that the miner using the portable container knows the identity of the chemical, its hazards, and any protective measures needed; and

(b) The portable container is left empty at the end of the shift.

Subpart E—Material Safety Data Sheet (MSDS)

§ 47.41 Requirement for an MSDS.

(a) The operator must have an MSDS for each hazardous chemical before using it. The MSDS may be in any medium, such as paper or electronic, that does not restrict access.

(b) For each hazardous chemical produced at the mine, the operator must prepare an MSDS and update this MSDS with significant new information about the chemical's hazards or protective measures within 3 months of becoming aware of this information.

(c) For each hazardous chemical brought to the mine, the operator must replace an outdated MSDS when a revised MSDS is received from the chemical's manufacturer or supplier.

(d) Operators may choose to rely on the MSDS received from the chemical manufacturer or supplier. Alternatively, operators may develop their own MSDS or they may obtain one from another source. The operator is not responsible for an inaccurate MSDS obtained from the chemical's manufacturer or supplier.

§ 47.42 MSDS contents.

If an operator must prepare an MSDS, the MSDS must—

(a) Be legible, accurate, and in English;

(b) Use a chemical identity that permits cross-referencing between the list of hazardous chemicals, the chemical's label, and its MSDS; and

(c) Contain information, or indicate if no information is available, for the

categories listed in Table 47.42 as follows:

TABLE 47.42.—CONTENTS OF MSDS

Category	Requirements, descriptions, and exceptions
(1) Identity	The identity of the chemical or, if the chemical is a mixture, the identities of all hazardous ingredients. See § 47.11 (identifying hazardous chemicals).
(2) Properties	The physical and chemical characteristics of the chemical such as vapor pressure and solubility in water.
(3) Physical hazards	The physical hazards of the chemical including the potential for fire, explosion, and reactivity.
(4) Health hazarads	The health hazards of the chemical including— (i) Signs and symptoms of exposure; (ii) Any medical conditions which are generally recognized as being aggravated by exposure to the chemical; and (iii) The primary routes of entry for the chemical, such as lungs, stomach, or skin.
(5) Exposure limits	For the chemical, or for the ingredients of the mixture— (i) The MSHA permissible limit, if there is one, and (ii) Any other exposure limit recommended by the preparer of the MSDS.
(6) Carcinogenicity	Whether the chemical or an ingredient in the mixture is a carcinogen or potential carcinogen. See the sources specified in § 47.11 (identifying hazardous chemicals).
(7) Safe use	Precautions for safe handling and use including— (i) Appropriate hygienic practices, (ii) Protective measures during repair and maintenance of contaminated equipment, and (iii) Procedures for clean-up of spills and leaks.
(8) Control measures	Generally applicable control measures such as engineering controls, work practices, and personal protective equipment.
(9) Emergency information	(i) Emergency medical and first-aid procedures, and (ii) The name and telephone number of a person who can provide additional information on the hazardous chemical and appropriate emergency procedures.
(10) Date prepared	The date the MSDS was prepared or last changed.

§ 47.43 MSDS for hazardous waste.

(a) If an MSDS is not available for hazardous waste and the operator is unable to obtain or develop one, the operator must provide each potentially exposed miner with the information specified in Table 47.42 for the hazardous waste to the extent that it is available.

(b) If the mine produces or uses hazardous waste, the operator must provide each exposed miner and designated representative with access to any HazCom material which—

(1) Identifies its hazardous chemical components,

(2) Describes its physical or health hazards, or

(3) Specifies appropriate protective measures.

§ 47.44 Access to an MSDS.

The operator must provide miners with access during each work shift to the MSDS for each hazardous chemical to which they may be exposed either—

(a) At each work area where the hazardous chemical is produced or used, or

(b) At a central location, provided that a miner can readily access it in an emergency.

§ 47.45 Retaining an MSDS.

The operator must—

(a) Retain its MSDS for as long as the hazardous chemical is known to be at the mine, and

(b) Notify miners at least 3 months before disposing of the MSDS.

Subpart F—HazCom Training

§ 47.51 Requirement for HazCom training.

(a) The operator must instruct each miner about the hazardous chemicals in his or her work area—

(1) Before the miner's first assignment to that work area;

(2) Whenever the operator introduces a new hazardous chemical into the miner's work area, unless the operator has previously trained the miner about the hazard; and

(3) Whenever the operator becomes aware of new and significant information about a chemical's hazards.

(b) Relevant training conducted in compliance with other parts of this chapter or with OSHA's Hazard Communication Standard can be used to meet the requirements of this part. Relevant training conducted in compliance with this part can be used to meet the requirements of other parts of this chapter.

§ 47.52 HazCom training contents.

HazCom training must include instruction on the following:

(a) The physical and health hazards of chemicals in the work area.

(b) The requirements of this part.

(c) The mine's HazCom program, including an explanation of the labeling system and MSDSs and how miners can obtain and use this hazard information.

(d) The location and availability of the written HazCom program, the list of hazardous chemicals, labeling information, and MSDSs.

(e) The operations or locations where hazardous chemicals are present in the miner's work area, such as unlabeled pipes, stockpiles, conveyors, rod or ball mills, containers of raw materials, and non-routine tasks, such as the cleaning of a storage tank that had contained a hazardous chemical.

(f) The methods and observations that can be used to detect the presence or release of a hazardous chemical in the work area.

(g) The measures that a miner can take to protect himself or herself from these hazards.

(h) The specific procedures, such as work practices, engineering controls, emergency procedures, and use of personal protective equipment, in place at the mine to protect miners from hazardous chemical exposure.

§ 47.53 HazCom training records.

The operator must make a record of each miner's HazCom training and keep the record for 2 years.

Subpart G—Making HazCom Information Available

§ 47.61 Access to HazCom materials.

Upon request, the operator must provide access to all HazCom materials required by this part to miners and designated representatives, except as provided in §47.71 through §47.77 (provisions for trade secrets).

§ 47.62 Cost for copies.

(a) The operator must provide the first copy and each revision of the HazCom material without cost.

(b) Fees for a subsequent copy of the HazCom material must be non-discriminatory and reasonable.

§ 47.63 Providing labels and MSDSs to customers.

(a) For a hazardous chemical produced at the mine, the operator must provide customers, upon request, with the chemical's label, or a copy of the label information, and the chemical's MSDS.

(b) The label or label information must include the name and address of a responsible party who can provide additional information about the hazardous chemical.

Subpart H—Trade Secret Hazardous Chemical

§ 47.71 Provisions for withholding trade secrets.

(a) Operators may withhold the identity of a trade secret chemical, including the name and other specific identification, from the written list of hazardous chemicals, the label, and the MSDS, provided that the operator—

(1) Can support the claim that the chemical's identity is a trade secret,

(2) Identifies the chemical in a way that it can be referred to without disclosing the secret,

(3) Indicates in the MSDS that the chemical's identity is withheld as a trade secret, and

(4) Discloses in the MSDS information on the properties and effects of the hazardous chemical.

(b) The operator must make the chemical's identity available to miners, designated representatives, and health professionals in accordance with the provisions of this subpart H.

(c) This subpart H does not require the operator to disclose process or percentage of mixture information, which is a trade secret, under any circumstances.

§ 47.72 Disclosure of information to MSHA.

(a) Even if the operator has a trade secret claim, the operator must disclose to MSHA, upon request, any information which this subpart H requires the operator to make available.

(b) The operator must make a trade secret claim, no later than at the time the information is provided to MSHA, so that MSHA can determine the trade secret status and implement the necessary protection.

§ 47.73 Disclosure in a medical emergency.

(a) Upon request and regardless of the existence of a written statement of need or a confidentiality agreement, the operator must immediately disclose the identity of a trade secret chemical to the treating health professional when that person determines that—

(1) A medical emergency exists, and

(2) The identity of the hazardous chemical is necessary for emergency or first-aid treatment.

(b) The operator may require a written statement of need and confidentiality agreement in accordance with the provisions of § 47.74 and § 47.75 as soon as circumstances permit.

§ 47.74 Non-emergency disclosure.

Upon request, the operator must disclose the identity of a trade secret chemical in a non-emergency situation to an exposed miner, the miner's designated representative, or a health professional providing services to the miner, if the following conditions are met.

(a) The request is in writing.

(b) The request describes in reasonable detail an occupational health need for the information, as follows:

(1) To assess the chemical hazards to which the miner will be exposed.

(2) To conduct or assess health sampling to determine the miner's exposure levels.

(3) To conduct reassignment or periodic medical surveillance of the exposed miner.

(4) To provide medical treatment to the exposed miner.

(5) To select or assess appropriate personal protective equipment for the exposed miner.

(6) To design or assess engineering controls or other protective measures for the exposed miner.

(7) To conduct studies to determine the health effects of exposure.

(c) The request explains in detail why the disclosure of the following information would not satisfy the purpose described in paragraph (b) of this section:

(1) The properties and effects of the chemical.

(2) Measures for controlling the miner's exposure to the chemical.

(3) Methods of monitoring and analyzing the miner's exposure to the chemical.

(4) Methods of diagnosing and treating harmful exposures to the chemical.

(d) The request describes the procedures to be used to maintain the confidentiality of the disclosed information.

(e) The requester enters a written confidentiality agreement that he or

she will not use the information for any purpose other than the health needs asserted and agrees not to release the information under any circumstances, except as authorized by § 47.75, by the terms of the agreement, or by the operator.

§ 47.75 Confidentiality agreement and remedies.

(a) The confidentiality agreement authorized by § 47.74—

(1) May restrict the use of the trade secret chemical identity to the health purposes indicated in the written statement of need;

(2) May provide for appropriate legal remedies in the event of a breach of the agreement, including stipulation of a reasonable pre-estimate of likely damages;

(3) Must allow the exposed miner, the miner's designated representative, or the health professional to disclose the trade secret chemical identity to MSHA.

(4) May provide that the exposed miner, the miner's designated representative, or the health professional inform the operator who provided the trade secret chemical identity prior to or at the same time as its disclosure to MSHA; and

(5) May not include requirements for the posting of a penalty bond.

(b) Nothing in this subpart precludes the parties from pursuing non-contractual remedies to the extent permitted by law.

§ 47.76 Denial of a written request for disclosure.

To deny a written request for disclosure of the identity of a trade secret chemical, the operator must—

(a) Put the denial in writing, and

(1) Include evidence to substantiate the claim that the chemical's identity is a trade secret,

(2) State the specific reasons why the request is being denied, and

(3) Explain how alternative information will satisfy the specific medical or occupational health need without revealing the chemical's identity.

(b) Provide the denial to the health professional, miner, or designated representative within 30 days of the request.

§ 47.77 Review of denial.

(a) The health professional, miner, or designated representative may refer the written denial to MSHA for review. The request for review must include a copy of—

(1) The request for disclosure of the identity of the trade secret chemical,

(2) The confidentiality agreement, and

(3) The operator's written denial,

(b) If MSHA determines that the identity of the trade secret chemical should have been disclosed, the operator shall be subject to citation by MSHA.

(c) If MSHA determines that the confidentiality agreement would not sufficiently protect against unauthorized disclosure of the trade secret, MSHA may impose additional conditions to ensure that the occupational health services are provided without an undue risk of harm to the operator.

(d) If the operator contests a citation for a failure to release the identity of a trade secret chemical, the matter will be adjudicated by the Mine Safety and Health Review Commission. The Administrative Law Judge may review the citation and supporting documentation in camera or issue appropriate orders to protect the trade secret.

Subpart I—Exemptions

§ 47.81 Exemptions from the HazCom standard.

A hazardous chemical is exempt from this part 47 under the conditions described in Table 47.81 as follows:

TABLE 47.81.—CHEMICALS AND PRODUCTS EXEMPT FROM THIS HAZCOM STANDARD

Exemption	Conditions for exemption
Article	If, under normal conditions of use, it— (1) Releases no more than insignificant amounts of a hazardous chemical, and (2) Poses no physical or health risk to exposed miners.

TABLE 47.81.—CHEMICALS AND PRODUCTS EXEMPT FROM THIS HAZCOM STANDARD—Continued

Exemption	Conditions for exemption
Biological hazards	All biological hazards, such as poisonous plants, insects, and micro-organisms.
Consumer product	As defined in the Consumer Product Safety Act, if the operator can show that— (1) The miner uses it for the purpose the manufacturer intended; and (2) Such use does not expose the miner more often and for longer than ordinary consumer use.
Cosmetics, drugs, food, food additive, color additive drinks, alcoholic beverages, tobacco and tobacco products, or medical or veterinary device or product, including materials intended for use as ingredients in such products (such as flavors and fragrances).	When labeled in accordance with the Federal Food, Drug, and Cosmetic Act or the Virus-Serum-Toxin Act or regulations issued under those Acts, if they are packaged for retail sale and color intended for personal consumption or use by additive, miners while on mine property.
Hazardous substance	As defined in the Federal Hazardous Substances Act, if the operator can show that— (1) The miner uses it for the purpose the manufacturer intended; and (2) Such use does not expose the miner more often and for longer than ordinary consumer use.
Radiation	All ionizing or non-ionizing radiation, such as alpha or gamma, microwaves, or x-rays.
Wood or wood products, including lumber	If they do not release or otherwise result in exposure to a hazardous chemical under normal conditions of use. For example, wood is not exempt if it is treated with a hazardous chemical or if it will be subsequently cut or sanded.

§ 47.82 Exemptions from labeling.

A hazardous chemical is exempt from subpart D of this part 47 under the conditions described in Table 47.82 as follows:

TABLE 47.82.—HAZARDOUS CHEMICALS EXEMPT FROM LABELING

Exemption	Conditions for exemption
Chemical substance or mixture regulated by EPA	When labeled in accordance with the Toxic Substances Control Act or regulations issued under that Act.
Consumer product or hazardous substance not exempt under § 47.81.	When subject to a consumer product safety standard or a labeling requirement of the Consumer Product Safety Act and Federal Hazardous Substances Act respectively, or regulations issued under those Acts.
Hazardous substances	When the subject of remedial or removal action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in accordance with EPA regulations.
Pesticide regulated by EPA or the Department of Agriculture	When labeled in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act or the Federal Seed Act or regulations issued under those Acts.
Raw material being mined or processed	While on mine property, except when the container holds a mixture of the raw material and another hazardous chemical and the mixture is determined to be hazardous under § 47.11 (identifying hazardous chemicals) of this part.
Wood or wood products, including lumber, not exempt under § 47.81.	If it releases more than insignificant amounts of a hazardous chemical or will be subsequently cut or sanded.

Subpart J—Definitions

§ 47.91 Definitions of terms used in this part.

The definitions in Table 47.91 apply in this part 47 as follows:

TABLE 47.91.—DEFINITIONS

Term	Definition for purposes of HazCom
Access	The right to examine and copy records.
Article	A manufactured item, other than a fluid or particle, that— (1) Is formed to a specific shape or design during manufacture, and (2) Has end-use functions dependent upon its shape or design.
Chemical	Any element, chemical compound, or mixture of these.
Chemical name	(1) The scientific designation of a chemical in accordance with the nomenclature system of either the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS), or (2) A name that will clearly identify the chemical for the purpose of conducting a hazard evaluation.
Common name	Any designation or identification (such as a code name, code number, trade name, brand name, or generic name) used to identify a chemical other than by its chemical name.
Consumer product	Any article or component that is— (1) Produced or distributed for sale to a consumer; (2) Normally used for personal, family, household, school, or recreation purposes; and (3) Labeled in accordance with the Consumer Product Safety Act or regulations issued under that Act.
Container	(1) Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like. (2) The following are not considered to be containers for the purpose of compliance with this part: (i) Pipes or piping systems; (ii) Conveyors; and (iii) Engines, fuel tanks, or other operating systems or parts in a vehicle.
Cosmetics and drugs	(1) Cosmetics are any article applied to the human body for cleansing, beautifying, promoting attractiveness or altering appearance. (2) Drugs are any article used to affect the structure or any function of the body of humans or other animals.
Designated representative	(1) Any individual or organization to whom a miner gives written authorization to exercise the miner's rights under this part, or (2) A representative of miners under part 40 of this chapter.
EPA	The U.S. Environmental Protection Agency.
Exposed	Subjected, or potentially subjected, to a physical or health hazard in the course of employment. ''Subjected,'' in terms of health hazards, includes any route of entry, such as through the lungs (inhalation), the stomach (ingestion), or the skin (skin absorption).
Foreseeable emergency	Any potential occurrence that could result in an uncontrolled release of a hazardous chemical into the mine and for which an operator normally would plan, such as equipment failure, breaks or spills of containers, or failure of control equipment.

TABLE 47.91.—DEFINITIONS—Continued

Term	Definition for purposes of HazCom
Hazard warning	Any words, pictures, or symbols, appearing on a label or other form of warning, that convey the specific physical and health hazards of the chemical. (See the definitions for *physical hazard* and *health hazard* for examples of the hazards that the warning must convey.)
Hazardous chemical	Any chemical that presents a physical or health hazard.
Hazardous waste	Chemicals regulated by EPA under the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act.
Health hazard	A chemical for which there is statistically significant evidence that it can cause acute or chronic health effects in exposed persons. *Health hazard* includes chemicals which— (1) Cause cancer; (2) Damage the reproductive system or cause birth defects; (3) Irritate or corrode tissues; (4) Cause a sensitization reaction; (5) Damage the liver; (6) Damage the kidneys; (7) Damage the nervous system, including psychological or behavioral problems; (8) Damage the blood or lymphatic systems; (9) Damage the stomach or intestines; and (10) Damage the lungs, skin, eyes, or mucous membranes.
Health professional	A physician, nurse, physician's assistant, emergency medical technician, industrial hygienist, toxicologist, epidemiologist, or other person qualified to provide medical or occupational health services.
Identity	A chemical's *common name* or *chemical name*.
Label	Any written, printed, or graphic material displayed on or affixed to a container to identify its contents and convey other relevant information.
Material safety data sheet (MSDS)	Written or printed material concerning a hazardous chemical which— (1) An operator prepares in accordance with Table 47.42 (MSDS requirements) of this part, or (2) An employer prepares in accordance with 29 CFR 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59, or 1928.21 (OSHA Hazard Communication regulations).
Mixture	Any combination of two or more chemicals which is not the result of a chemical reaction.
Ordinary consumer use	A product or article packaged by the manufacturer or retailer for ordinary household, family, school, recreation, or other personal use or enjoyment, as opposed to business use, and the miner's exposure is not more than it would be for an ordinary consumer using the product as the manufacturer intended.
OSHA	The Occupational Safety and Health Administration, U.S. Department of Labor.

TABLE 47.91.—DEFINITIONS—Continued

Term	Definition for purposes of HazCom
Physical hazard	A chemical for which there is scientifically valid evidence that it is— (1) A *combustible liquid*, *i.e.* (i) A liquid having a flash point at or above 100 °F (37.8 °C) and below 200 °F (93.3 °C); or (ii) A liquid mixture having components with flashpoints of 200 °F (93.3 °C) or higher, the total volume of which make up 99% or more of the mixture. (2) A *compressed gas*, *i.e.* (i) A contained gas or mixture of gases with an absolute pressure exceeding: (A) 40 psi (276 kPa) at 70 °F (21.1 °C); or (B) 104 psi (717 kPa) at 130 °F (54.4 °C) regardless of pressure at 70 °F. (ii) A liquid having a vapor pressure exceeding 40 psi (276 kPa) at 100 °F (37.8 °C) as determined by ASTM D–323–72. (3) An *explosive*, *i.e.*, a chemical that undergoes a rapid chemical change causing a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature; (4) A *flammable*, *i.e.*, a chemical that will readily ignite and, when ignited, will burn persistently at ambient temperature and pressure in the normal concentration of oxygen in the air; (5) An *organic peroxide*, *i.e.*, an explosive, shock sensitive, organic compound or an oxide that contains a high proportion of oxygen-superoxide; (6) An *oxidizer*, *i.e.*, a chemical, other than an explosive, that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases; (7) A *pyrophoric*, *i.e.*, capable of igniting spontaneously in air at a temperature of 130 °F (54.4 °C) or below. (8) *Unstable (reactive)*, *i.e.*, a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or become self-reactive under conditions of shock, pressure, or temperature; or (9) *Water-reactive*, *i.e.*, a chemical that reacts with water to release a gas that is either flammable or a health hazard.
Produce	To manufacture, process, formulate, generate, or repackage.
Raw material	Ore, valuable minerals, worthless material or gangue, overburden, or a combination of these, that is removed from natural deposits by mining or is upgraded through milling.
Trade secret	Any confidential formula, pattern, process, device, information, or compilation of information that is used by the operator and that gives the operator an opportunity to obtain an advantage over competitors who do not know or use it.
Use	To package, handle, react, or transfer.
Work area	Any place in or about a mine where a miner works.

PART 48—TRAINING AND RETRAINING OF MINERS

Subpart A—Training and Retraining of Underground Miners

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